altogether arbitrary, and have no existing prototypes in the great scheme of creation. In that, subdivide as we may, all is unity and omnipotence. *Variety, fitness, simplicity, contrast*, and perfect *truth*, are all swallowed up in one thing perfectly good, and therefore perfectly beautiful—Divine will. That Divine will, which in the beginning created the heaven and the earth, and saw that everything created was very good. Surely, we, whose privilege it is to be fashioned in God's own image, may strive to follow reverently and closely, though at an infinite distance, that great example which has been given us, and study, so far as lies in human power, to ensure that all we do, and all we make, may, like the great works of nature, be "very good."

M. Digby Wyatt.

CORPORATION GAS-WORKS.

"PROFITS OF GAS AT MANCHESTER."

In reference to a paragraph in our columns on 17th instant, wherein were quoted some remarks by an alderman, on "the position of Manchester with respect to advantages in the manufacture of gas," and in defence of the corporation charges for the article, which are practically a shilling a thousand cubic feet higher in Manchester than in London, we have received a communication from Mr. W. Pearce, explaining that the alderman's statistics are erroneous; cannel coal in London costing the gas companies 20*s.* per ton, and coke yielding only 5*s.*; leaving 15*s.* chargeable to the gas, instead of 2*s.* as alleged. It thus, and from other remarks of our correspondent, appears to be implied by him that the price of gas at Manchester ought to be lower than in London, in place of higher,—less than 4*s.* in place of more;—and we hope the Manchester press will keep in view the inference, thus fairly deducible, and the fact, that the Manchester corporation (shortsightedly, we think) compel every consumer to purchase his meter, and even a box to lock it up in. So long as they do this, they may depend on it they are limiting the extension of their manufacture and their profits, which would be immensely increased were they to allow private families, as well as shopkeepers, to rent their meters in place of purchasing them. We were not aware, however, of the *fact*, alleged by our correspondent, that "no gas company *dare* to practise" in these respects the system adopted at Manchester, &c.

As to the splendid profits realised in that town, and devoted to public improvements, Mr. Pearce observes, that "the large profits realised by the Manchester corporation out of the gas-works are constantly paraded before the public, as proving the advantages resulting from the supply of this important article being monopolised by the municipal authorities. If the question is only *superficially* examined, it may bear this construction; but those who have studied the details can *only* see in them an insidious system of taxing the gas consumer for purposes the expense of which ought to be supported by the entire population."

Now, in examining any question of importance, three degrees at least of penetrative sagacity may fairly be recognised in the studying of its details; namely, that which is merely superficial; that which goes in *medias res* beneath the surface; and that which *sees through* the latter themselves, even when purposely and insidiously muddified. True, the public improvements carried out with the profits realised from the Manchester corporation gas manufacture are for the general benefit, and ought, strictly speaking, to be carried out at the general expense,—and if, as it ought to be, every dwelling, even the most humble, were fitted up for the use of gas, this would be the case even with these very profits,—but would the Manchester gas consumers, who do enjoy, as do the non-consumers, the improvements carried out by means of these profits, be in any better position than they now are in, were the thirty to forty thousand pounds per annum of gas-profits *not* to be laid out in city improvements, but to be divided by a gas company?

Our correspondent's objection to the reaping of such a harvest from a limited number of gas consumers might have had some force in an argument simply for the further reduction of price down to the level of the bare expenses of manufacture; but his purpose is one of a very different character. For our own part, we do think that if a pretty long price be justifiable anywhere, it is in such a case as this; nevertheless, we by no means desire to uphold high prices even here, and willingly second our correspondent's only legitimate object, in showing that gas ought to be cheaper at Manchester than in London.

BRITISH ARCHÆOLOGICAL ASSOCIATION.

GERRARD'S HALL CRYPT.

At a meeting, on Wednesday, April 28, the Treasurer in the Chair, Mr. George Vere Irving communicated some remarks on the original drawings by the Parliamentary Colonel Eyre, of the fortifications of London during the civil wars, which were exhibited at a previous meeting by Mr. Gould. Some doubt had been thrown upon their authenticity; but much evidence was brought forward on this occasion by Mr. White, Mr. Duesbury, and other members in vindication of them; and it was stated that the present proprietor of them, who is preparing them for publication, trusted shortly to be in possession of documents which would establish their genuineness beyond dispute.

A letter was read, from Mr. Butterworth, and a discussion took place respecting the threatened destruction of the crypt under Gerrard's Hall, which had been visited by the Association in October last. Mr. Bunning, the city architect, had on that occasion stated, that it was his most anxious desire to preserve the crypt, and that could any mode at all practicable be suggested of overcoming the difficulties he unfortunately saw in the way, he should most earnestly recommend its adoption. It had been found, however, that the crown of the arches was 4 feet above the level of the new street, and when to that were added at least 2 feet more of soil and paving, necessary for the formation of the road itself, it must be obvious that so great a rise could not be obtained without serious inconvenience to the traffic, to say nothing of the unsightliness of the effect.* It was suggested by Mr. White, that instead of idly protesting against what had become a measure of necessity, the Corporation of London should be solicited to adopt the hint thrown out by one of its members, Mr. Deputy Lott, which was to have the building carefully taken down and re-erected on a site adjacent to the crypt of Guildhall, a scheme perfectly feasible, and which would not be attended by a third of the expense consequent on sinking it bodily a sufficient number of feet, which was another mode of preserving it. It was ultimately moved by Mr. Egan, and seconded by Mr. Hayworth, M.P. that the Council of the Association should be requested to communicate with the proper authorities on the subject, and the chairman stated that at the next meeting the plans and drawings of the crypt made for the association should be exhibited, and a paper read on the subject.

Mr. Gunston exhibited some specimens of wood carvings and encaustic tiles from the church of St. Andrew Chesner, Oxfordshire; and also rubbings from the inscriptions on the bells of that church.

Dr. Copeland exhibited a carved and iron-banded chest of the sixteenth century, and Mr. Pratt a fine sword of the fifteenth century, having on the pommel a shield charged with two bars. It had been recently found in Kent. The same gentleman also exhibited a beautiful specimen of iron work; being a portion of a railing formerly enclosing the altar, as he believed, of the cathedral at Aix-la-Chapelle. It was of the seventeenth century, and of exquisite workmanship; the flowers and leaves being as delicately formed as those in the finest Dresden china.

* A Report recently made to the City authorities says 4 feet in all.

THE CURVED LINES OF GREEK ARCHITECTURE.

As I have not the advantage of seeing your valuable journal except in its monthly parts, I trust you will excuse my referring in this communication to a subject so far back as one in your number for last February, viz. "the curved lines of Greek architecture."

In your review of Mr. Penrose's "Investigations," &c. I find that he states it as his opinion that "the origin of the horizontal curve was to obviate a disagreeable effect, produced by the contrast of the horizontal with the inclined lines of a flat pediment, causing the former (that is, the cornice) to appear deflected from the angles." This, of course, would hold good only where a pediment existed, and would not include every instance. You add, that Dr. Emil Braun suggested that the curvature in question was to make the lines harmonize with the sea horizon. And a correspondent, R. R. in p. 121 of the same part, endeavours very ingeniously to confirm this theory.

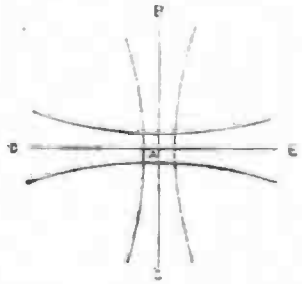
Will you allow me to suggest that this is a point in which one science may derive valuable assistance from another, though apparently quite unconnected with it. The difficulty is, I think, to be solved by the application of the simple principles of optics.

A column, we all know, if made of the same diameter throughout, will not appear so to the eye, but will have the effect of being thinner towards the middle than either at the bottom or top: in short, the lines of the profile will appear curved. Now, it makes no difference whether this column be seen perpendicularly or horizontally: the effect is the same in both instances. To make the perpendicular column appear of the same diameter throughout, you must make the profile convex, by the use of what is technically termed an *entasis*; so likewise, when two horizontal lines occur, so near one another as to strike the eye together, they must be treated in a similar manner.

The fact is, the eye does not admit of two strictly parallel lines being pictured on the retina: if the axis of the eye be brought on one of them, the other will immediately appear curved; and *any straight line not viewed with the axis of the eye falling on some point in it will appear curved*. Consequently the horizontal sky line of a Greek building, in order to admit of being seen as a straight line, while the eye contemplates the parts of the building below it, must be made convex on the upper side.

The human eye contains a double-convex lens, by means of which an image from external objects is thrown on the retina or screen at the back: if this screen were flat, our vision would be limited to a point: we should see no more than a point distinctly at one and the same time (for reasons which I could not make plain in a few words), but to enable us to see a considerable expanse at once, the retina is curved. It is this curvature combined with the aberration of the lens of the eye which gives the curved figure to lines not passing exactly through the centre or axis of vision.

The accompanying diagram will show this more clearly:—



Let A be the axis of vision: then, as long as it remains so, BC, DE, both which pass through A, are the only lines which will appear straight: all others will be curved. But the moment the point of sight A is altered, a corresponding alteration takes place in the curvature of the lines.

H. C. K.

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